

## Abstract

The present invention discloses a multi-band low noise amplifier comprising: a plurality of matching networks, a plurality of differential pairs, a pair of common base transistors, a pair of inductors, a pair of variable capacitors, a pair of inductors and a current generator. Bases of said plurality of differential pairs are coupled to outputs of said plurality of input matching networks. Emitters and collectors of said plurality of differential pairs are connected together, respectively. Emitters of said common base transistor pairs are coupled to collectors of said plurality of differential pairs. One end of the inductor pairs is coupled to collectors of said common base transistor pair and the other end is coupled to a power supply. The capacitor pair and the inductor pair form a resonator pair. One end of said inductor pairs is coupled to emitters of said plurality of differential pairs, and the other end of said inductor pairs is interlinked. One end of the current generator is coupled to a coupling point of said inductors, and the other end of

the current generator is coupled to ground. Sharing the inductors used in the multi-band low noise amplifier reduces the area and cost of the chipsets.